

What is claimed is:

1. A control system for enabling user access of data records stored in a relational database in an object oriented way comprising:
  - a first object model representing a class mapped to a table in the relational database;
  - a second object model representing a query object modeled after the first object model according to the same modeling framework;
  - a software parser for reading the information contained in the first and second object models;
  - a model generator for building a representative model from aggregated information from the first and second models; and
  - a code generator for scanning the representative model and generating the appropriate application code for each node in the representative model;characterized in that a user supplies the input parameters for accessing the records desired from the database into a text receptacle of the second object model and executes the model causing subsequent application code-generation processing that drives the access to the records in the ordered manner, the records served as an object or objects to a user program from which such records were retrieved in a fashion requested and interpretable by the user program.
2. The control system of claim 1 wherein the modeling language is Unified Modeling Language.

3. The control system of claim 1 wherein the query language is Structured Query Language.

5 4. The control system of claim 1 wherein the mapping schema is one to one class to table with replication in the sub-classes.

5. The control system of claim 1 wherein the second object contains text options wherein if marked generate a method update or a method delete routine.

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6. The control system of claim 1 wherein the modeling framework supports polymorphism with respect to object-to-relational mapping.

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7. The control system of claim 1 wherein cursor, paging, and single row get methods are allowed.

8. The control system of claim 1 wherein access is based on a primary key.

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9. The control system of claim 1 wherein access is based on an arbitrary predicate.

10. A query object for accepting user input and facilitating automated object-oriented database accesses from a relational database comprising;

at least one input parameter supplied by a user;

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at least one output parameter returned by the query object; and

at least one input instruction for generating method code for database access;

characterized in that the query object manifests itself as a class object with operations in terms of user code generated such that execution of the query generates database access routines ordered by the query according to information of the class.

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11. The query object of claim 10 wherein the modeling language is Unified Modeling Language.

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12. The query object of claim 10 wherein the user input is Structured Query Language.

13. The query object of claim 10 wherein the text receptacle contains text options wherein if marked generate a specific data update method and/or a data delete method.

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14. The query object of claim 10 wherein the object drives database access based on a primary key.

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15. The query object of claim 10 wherein the object drives database access based on an arbitrary predicate.

16. A method for automatically generating application code for specific database access routines understood at a relational database, the routines called in an object-oriented way comprising steps of:

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(a) providing a class object of data, the data represented and mapped to a table in the database;

(b) providing a query object that manifests itself as the class object when executed;

(c) supplying text input parameters to the query object, the parameters specifying the type of data and method of retrieval;

(d) building a representative model from data contained in the class object and data contained in the query;

5 (e) parsing the data from the representative object and generating the correct code for all represented nodes in the object; and

(f) executing the code and returning the specified data from the database to a user interface according to access parameters supplied by the user.

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17. The method of claim 16 wherein in step (a) the mapping is one to one class to table with replication in subclasses.

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18. The method of claim 16 wherein in step (b) the query object is of the same model framework as the class object.

19. The method of claim 16 wherein in step (c) the text input is SQL.

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20. The method of claim 16 wherein in step (c) the text input includes an option of data update or delete routines.

21. The method of claim 16 wherein in step (e) the code is application code for retrieving records according to class and query instructions.

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